

## DO-41 Plastic-Encapsulate Diodes

### SB120 THRU SB1100 Schottky Rectifier Diodes

#### Features

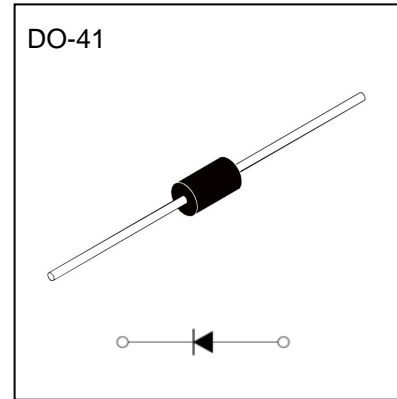
- $I_{F(AV)}$  1A
- $V_{RRM}$  20V-100V
- High surge current capability
- Polarity: Color band denotes cathode

#### Applications

- Rectifier

#### Marking

- SB1X  
X : From 20 To 100



#### Limiting Values (Absolute Maximum Rating)

| Item                                 | Symbol      | Unit             | Conditions   | SB1        |    |    |            |    |    |     |
|--------------------------------------|-------------|------------------|--|------------|----|----|------------|----|----|-----|
|                                      |             |                  |  | 20         | 30 | 40 | 50         | 60 | 80 | 100 |
| Repetitive Peak Reverse Voltage      | $V_{RRM}$   | V                |  | 20         | 30 | 40 | 50         | 60 | 80 | 100 |
| Maximum RMS Voltage                  | $V_{RMS}$   | V                |  | 14         | 21 | 28 | 35         | 42 | 56 | 70  |
| Maximum DC Blocking Voltage          | $V_{DC}$    | V                |  | 20         | 30 | 40 | 50         | 60 | 80 | 100 |
| Average Forward Current              | $I_{F(AV)}$ | A                | 60Hz Half-sine wave, Resistance load, (see fig.1)      | 1.0        |    |    |            |    |    |     |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$   | A                | 60Hz Half-sine wave, 1 cycle, $T_a = 25^\circ\text{C}$ | 30         |    |    |            |    |    |     |
| Junction Temperature                 | $T_J$       | $^\circ\text{C}$ |  | -55 ~ +125 |    |    | -55 ~ +150 |    |    |     |
| Storage Temperature                  | $T_{STG}$   | $^\circ\text{C}$ |  | -55 ~ +150 |    |    |            |    |    |     |

#### Electrical Characteristics ( $T=25^\circ\text{C}$ Unless otherwise specified)

| Item                         | Symbol           | Unit               | Test Condition  | SB1                     |    |     |    |      |    |     |
|------------------------------|------------------|--------------------|---|-------------------------|----|-----|----|------|----|-----|
|                              |                  |                    |   | 20                      | 30 | 40  | 50 | 60   | 80 | 100 |
| Maximum Peak Forward Voltage | $V_{FM}$         | V                  | $I_{FM}=1.0\text{A}$                                      | 0.55                    |    | 0.7 |    | 0.85 |    |     |
| Maximum Peak Reverse Current | $I_{RRM1}$       | mA                 | $V_{RM}=V_{RRM}$  | $T_J=25^\circ\text{C}$  |    |     |    |      |    |     |
|                              | $I_{RRM2}$       |                    |   | $T_J=125^\circ\text{C}$ |    |     |    |      |    |     |
| Typical junction capacitance | $C_J$            | pF                 | Measured at 1MHz and applied reverse voltage of 4.0V D.C. | 110                     |    |     | 80 |      |    |     |
| Typical Thermal Resistance   | $R_{\theta J-A}$ | $^\circ\text{C/W}$ | Between junction and ambient                              | 50                      |    |     |    |      |    |     |
|                              | $R_{\theta J-L}$ |                    | Between junction and lead                                 | 10                      |    |     |    |      |    |     |

#### Notes:

- 1) Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

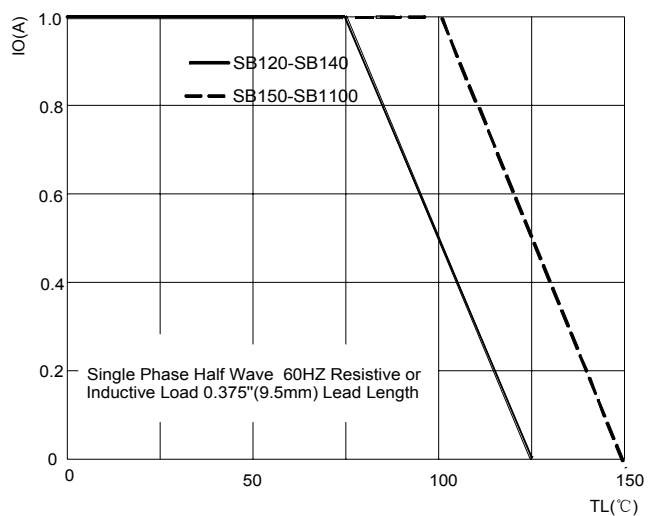


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

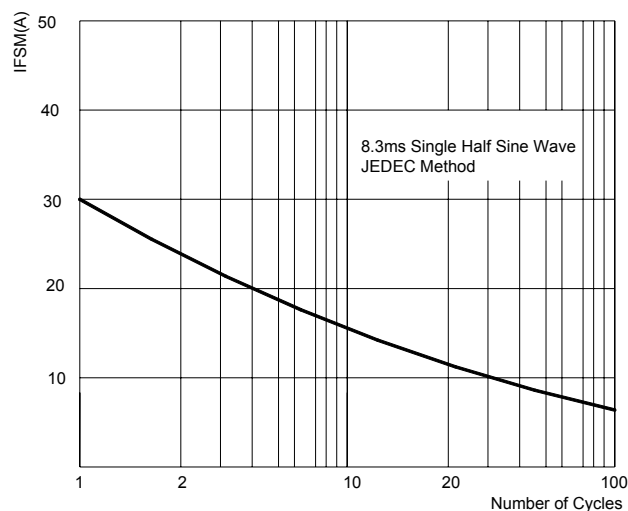


FIG.3: TYPICAL FORWARD CHARACTERISTICS

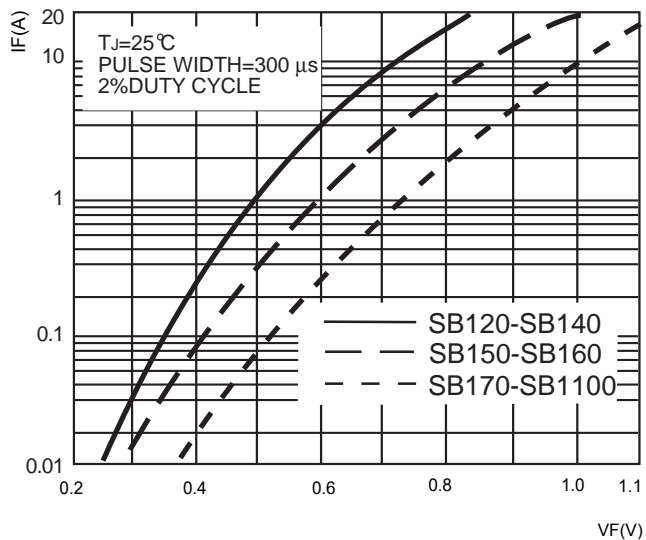
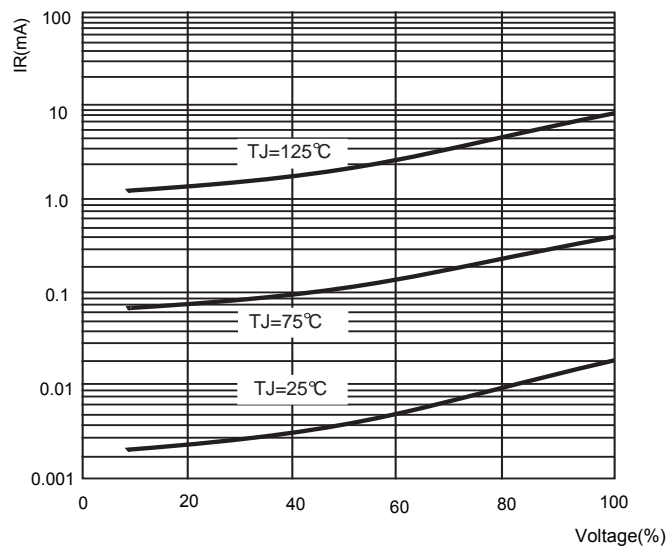
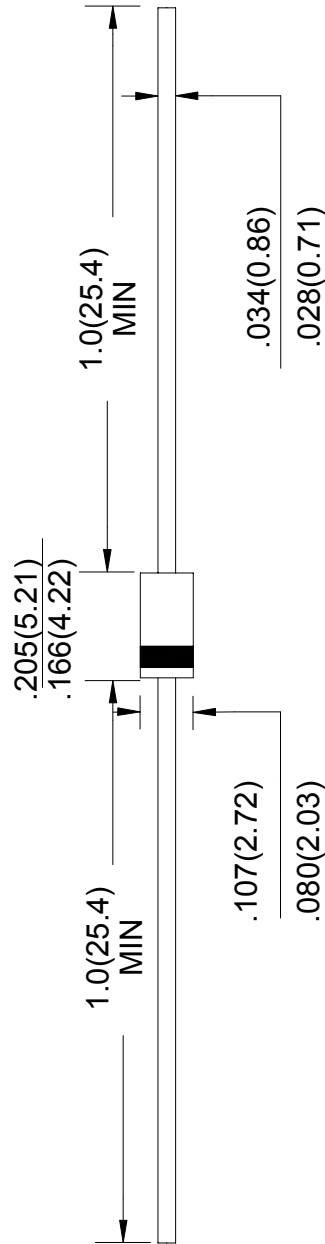


FIG.4: TYPICAL REVERSE CHARACTERISTICS





Unit: in inches (millimeters)

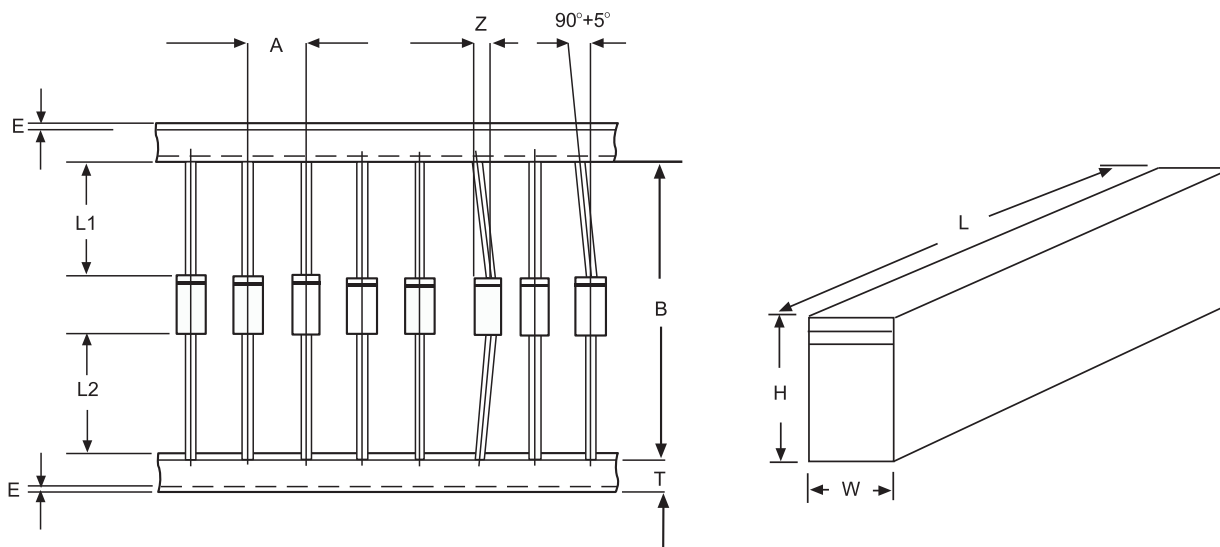
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# Ammo Box Packaging Specifications For Axial Lead Rectifiers

Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below

| COMPONENT OUTLINE | COMPONENT PITCH A          | INNER TAPE PITCH B      | CUMULATIVE PITCH TOLERANCE |
|-------------------|----------------------------|-------------------------|----------------------------|
|                   | $\pm 0.5\text{mm}(.020'')$ | $+0.5\text{mm}(.020'')$ |                            |
| R-1               | 5.0mm                      | 26.0mm                  | 2.0mm/20pitch              |
| R-1               | 5.0mm                      | 52.4mm                  | 2.0mm/10pitch              |
| A-405             | 5.0mm                      | 26.0mm                  | 2.0mm/20pitch              |
| A-405             | 5.0mm                      | 52.4mm                  | 2.0mm/10pitch              |
| DO-34/DO-35       | 5.0mm                      | 26.0mm                  | 2.0mm/20pitch              |
| DO-34/DO-35       | 5.0mm                      | 52.4mm                  | 2.0mm/10pitch              |
| DO-41             | 5.0mm                      | 26.0mm                  | 2.0mm/20pitch              |
| DO-41             | 5.0mm                      | 52.4mm                  | 2.0mm/10pitch              |
| DO-15             | 5.0mm                      | 52.4mm                  | 2.0mm/10pitch              |
| DO-27             | 10.0mm                     | 52.4mm                  | 2.0mm/10pitch              |
| R-6               | 10.0mm                     | 52.4mm                  | 2.0mm/10pitch              |



| ITEM                | SYMBOL  | SPECIFICATIONS(mm) | SPECIFICATIONS(inch) |
|---------------------|---------|--------------------|----------------------|
| Component alignment | Z       | 1.2max             | 0.048max             |
| Tape width          | T       | $6.0\pm 0.4$       | $0.236\pm 0.016$     |
| Exposed adhesive    | E       | 0.8max             | 0.032max             |
| Body eccentricity   | IL1-L2I | 1.0max             | 0.040max             |
| Box length          | L       | $255.0\pm 5.0$     | $10.04\pm 0.197$     |
| Box width           | W       | $78.0\pm 5.0$      | $3.07\pm 0.197$      |
| Box height          | H       | $150.0\pm 5.0$     | $5.91\pm 0.197$      |

NOTE: Each component lead shall be sandwiched between tapes for A minimum of 3.2mm(0.126'')